Volumes by Cylindrical Shells

1. Let V be the volume obtained by rotating about the $y - axis$ the region bounded by $y = \sqrt{25x}$ and $y = \frac{x^2}{25}$.

(a) Find V by the Washer method.

(b) Find V by the method of Cylindrical Shells.

2. Use the method of Cylindrical Shells to find the volume V generated by rotating the region bounded by the given curves about the specified axis.

$y = 8\sqrt{x}, y = 0, x = 1$**; about** $x = -4$**.**

3. Use the method of Cylindrical Shells to find the volume V generated by rotating the region bounded by the given curves about the specified axis.

$y = x^2, y^2 = x$**; about** $y = -3$**.**

4. Use the method of Cylindrical Shells to find the volume V generated by rotating the region bounded by the given curves about the specified axis.

$y = 3x^2, y = 0, x = 1$**; about** $x = 0$**.**

5. Use the method of Cylindrical Shells to find the volume V generated by rotating the region bounded by the given curves about the specified axis.

$8y = x^3, y = 0, x = 4$**; about** $y = 8$**.**

6. Use the method of Cylindrical Shells to find the volume V generated by rotating the region bounded by the given curves about the specified axis.

$y = 3x^2, y = 18x - 6x^2$**; about** $x = 0$**.**